

教育研究資訊雙月刊  
Volume 9, Issue 6, Pages 43-62  
國立臺灣師範大學教育研究中心

職前物理教師學科教學知能的成長：以合作學習的教學為例  
Development of Pedagogical Knowledge for Pre-Service Science Teachers.  
Instruction into Cooperative Learning as an Example

劉宏文；張惠博

中文摘要

本研究旨在探討在何種教學情境之下，可以增進職前物理教師的專業知能。研究者以社會建構主義關於知識的成長理論為依據，設計了五週的學習課程，以增進學生對合作學習教學策略的理解與信心。研究者意圖創造一個教學環境，通過與小組成員之間的互動，讓職前教師有充分的時間、空間、與資源，可以共同思考、討論有關合作學習教學策略的種種問題；包括：教師對合作學習的信念、合作學習的理論基礎、目前國中科學教學的問題、教師的角色、科學教學與合作學習的關係、教室經營管理等。通過資料分析與研究者的詮釋，本研究以 Bell 和 Gilbert (1996) 發展出的模式，從個人、小組與專業三個層面，檢驗職前教師的知能成長。

關鍵字：社會建構主義；師資培育；專業成長

### Abstract

This study investigated a situation for instruction that might improve the development of pre-service science teachers. Based on the perspectives of social constructivism (Fensham, Gunstone, & White, 1994), the authors designed a teaching project of five weeks duration, that would support pre-service science teachers to develop their knowledge and confidence in co-operative learning.

During all of the teaching periods, we defined ourselves as facilitators rather than answer providers. We helped pre-service teachers with coordinating all their curriculum materials, modeling the teaching strategies and classroom management on co-operative learning. We wanted to create an instructional environment in which pre-service science teachers had enough time, space, and resources to discuss any issues of cooperative learning, when working in-group and out-of-school settings. Based on the data presented, we used the model developed by B. Bell and J. Gilbert(1996), to describe the achievements of pre-service science teachers' development of cooperative learning. On a personal, social and professional level.

Key words : Social constructivism; Science teacher education; Professional development